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System for Training Aviation Regulations

STAR

What is STAR?

The aviation community has recognized for some time that many errors related to aviation maintenance and inspection could be prevented if technicians and inspectors better understood the Federal Aviation Regulations (FARs). The mission of the System for Training Aviation Regulations (STAR) project has been to research, design and develop prototype systems that train technicians and inspectors on regulatory documents. Two prototype systems have been developed. STAR-AMT is a multimedia infused system for training Aviation Maintenance Technician (AMTs) students. STAR-ASI is designed for On-the-Job Training (OJT) of Aviation Safety Inspectors (ASIs).

STAR-AMT



The purpose of STAR-AMT is to provide instructors with a tool to help convey the role the FARs play in the daily operations of aviation maintenance. The system is heavily infused with multimedia to motivate student interest. Scenario-based training techniques are employed to situate students in true-to-life work situations where FAR dependent decisions need to be made. STAR-AMT has several different learning environments. They are Overviews, Scenarios, Challenges and Resources.

STAR-ASI



The purpose of STAR-ASI is to be an On-the-Job training aid for Aviation Safety Inspectors. It is designed to function as both a training tool for new inspectors, as well as, a reference resource to seasoned inspectors. Like STAR-AMT, STAR-ASI has Scenarios, Challenge

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questions, a Glossary and a Document Browser. In place of the Overview learning environment, STAR-ASI has the Inspection Task Flow Chart learning environment.

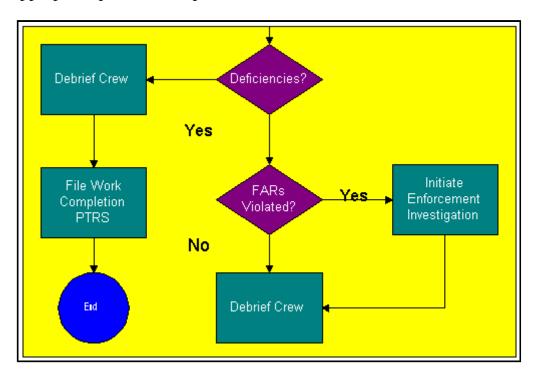
Components of STAR



- Overviews show you how FARs are organized, how different parts are related to each other, and who is responsible for what aspects of those regulations.
- Scenarios are interactive stories. In the opening scene of each scenario, a narrator tells you of an unclear situation where several actions are possible. A question is then presented to you about the situation and you are asked to choose among several possible actions. Once you choose an answer, a new scene in the scenario is presented.
- **Challenges** are designed to be a self-test of your knowledge of the FARs that pertain to aviation maintenance. Questions are presented in multiple choice, true/false, matching, and essay formats. An in-depth discussion about the correct answer to the question is provided.
- **Resources** are comprehension aids. There are three resources available to you: the document browser, the glossary, and the informational media browser. The document browser allows you to search and view documents in their entirety. The glossary defines and gives examples for commonly found terms in the FARs. The informational media browser provides easy access to all the standalone informational pieces available in STAR-AMT. These informational media pieces are designed to complement class presentations.
- The **Inspection Task Flow Chart** Learning Environment is a quick and easy way to review an inspection procedure before going out into the field. When you click on a step or decisions point, information is presented that is relevant to the inspection task step. Sometimes that information is presented in the context of a quiz question. These self-test questions will give you an opportunity to review the kinds of things you should be asking

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yourself during the inspection. FAR references and sample forms are also made available to you at appropriate points in the procedure.

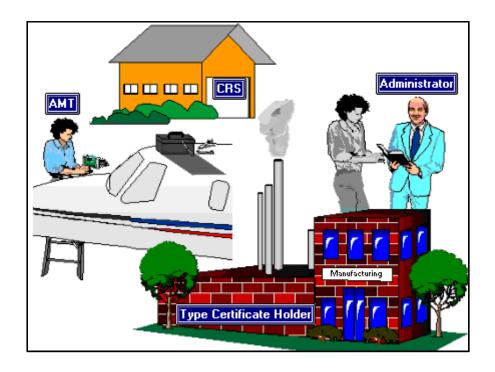


Each learning environment could be a stand-alone application. Together they provide multiple vantage points for students to arrive at a deeper understanding of aviation regulations.

Evaluation Summary

STAR has been subject to two formative evaluations by end users in the field. The first evaluation was conducted in July 1995, ten months into the project's start, and focused on usability issues such as navigation, screen design, and perceived conceptual understanding. Evaluation 2 was conducted four months later in November. The second evaluation was designed to identify what kinds of learning would occur from the STAR experience. At the time of the second evaluation most of the suggested design changes from the first evaluation had been incorporated into STAR and several modules had been added. The evaluation results indicate that learning in context, through scenarios and personal experiences coupled with media-rich presentations, promotes students to more readily retain concepts.

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